

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SUPPLEMENTAL SPECIFICATION**

**Section 815—Graded Aggregate**

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*Delete Section 815 and substitute the following:*

**815.1 General Description**

This section includes the requirements for material to be used for base, subbase, or shoulder course material, and includes graded aggregate, unconsolidated limerock base, and crushed concrete base.

**815.1.01 Related References**

**A. Standard Specifications**

[Section 800—Coarse Aggregate](#)

**B. Referenced Documents**

AASHTO T 27

ASTM C 295

ASTM D 3042

FL DOT Method FM5-515

SOP-1

[GDT 63](#)

**815.2 Materials**

**815.2.01 Graded Aggregate**

**A. Requirements**

1. Type

Use graded aggregate base, subbase, or shoulder course material of uniform quality.

- a. Obtain the graded aggregate from an approved source or deposit that will yield a satisfactory mixture meeting all requirements of this Specification.
- b. Use material that is crushed or processed as a part of the mining operations, or, mix two grades of material so that when combined in the central mix plant, the mixture meets the specifications.

2. Retained on the No. 10 (2 mm) sieve

Ensure that the material retained on the No. 10 (2 mm) sieve is Class A or B aggregate that meets the requirements of [Section 800](#).

3. Passing the No. 10 (2 mm) sieve

Ensure that any material passing the No. 10 (2 mm) sieve is relatively free of detrimental substances, such as soil overburden, decomposed rock, and/or swelling silts.

4. Stabilized Mixtures

Ensure that mixtures to be stabilized react satisfactorily when mixed with Portland cement. The Engineer will specify the percentage of Portland cement to use.

5. Gradation

Grade the graded aggregate base, subbase, or shoulder material as follows:

Sieve Size	Percent Passing By Weight
<b>Group I Aggregates</b>	
2 in (50 mm)	100
1-1/2 in (37.5 mm)	97-100
3/4 in (19.0 mm)	60-95
No. 10 (2 mm)	25-50 (Note 1, 2 and 3)
No. 60 (250 µm)	10-35
No. 200 (75 µm)	7-15
<b>Group II Aggregates</b>	
2 in (50 mm)	100
1-1/2 in (37.5 mm)	97-100
3/4 in (19 mm)	60-90
No. 10 (2 mm)	25-45 (Note 2 and 4)
No. 60 (250 µm)	5-30
No. 200 (75 µm)	4-11
NOTE 1: Group I aggregates having less than 37% passing the No. 10 (2 mm) sieve, shall have at least 9 percent passing the No. 200 (75 µm) sieve.	
NOTE 2: For graded aggregate stabilized with Portland Cement, 30-50 percent by weight shall pass the No. 10 (2 mm) sieve. All other requirements remain the same.	
NOTE 3: Material passing the No. 10 (2 mm) sieve shall have a sand equivalent of at least 20 for Group I aggregates.	
NOTE 4: Material passing the No. 10 (2 mm) sieve shall have a sand equivalent of at least 28 for Group II aggregates. Sand Equivalent values as low as 20 will be acceptable provided they are attributed exclusively to rock flour and the percent passing the No. 10 (2 mm) sieve does not exceed 40.	

## B. Fabrication

General Provisions 101 through 150.

## C. Acceptance

Test as follows:

Test	Method
Gradation	AASHTO T 27
Sand Equivalent	<a href="#">GDT 63</a>

## D. Materials Warranty

General Provisions 101 through 150.

### 815.2.02 Unconsolidated Limerock Base

#### A. Requirements

##### 1. Type

Use limerock base, subbase, or shoulder course material of uniform quality.

- To ensure uniform quality, the Department may restrict approved sources to specific mining areas, mining processes at a specific mining site, or both.
- Use a limerock base that yields a mixture to meet these Specifications.
- Use material that is crushed or processed as a part of the mining operations, or mix two grades of material so that when combined in the central mix plant the mixture meets the specifications.

- d. Use limerock base, subbase, or shoulder material that has the following characteristics:

Limerock bearing ratio	At least 100.
Deleterious substances	Do not allow chert or other extremely hard pieces that will not pass the 2 in (50 mm) sieve. Do not allow clay, sand, organics, or other materials in quantities that may damage bonding, finishing, or strength. All material passing the No. 40 (425 µm) sieve shall be non-plastic.
Carbonate content (magnesium or calcium)	At least 90%.

2. Gradation

Grade the limerock base so at least 97 percent by weight passes the 3-1/2 in (90 mm) sieve.

- Grade the material uniformly to dust. The fine portion passing the No. 10 (2 mm) sieve shall all be dust of fracture.
- Crush or break the limerock base, if necessary to meet size requirements before placing the material on the road.
- Ensure that materials having soundness losses of 20% or less, comply with the following gradation requirements:

**Gradation Requirements**

SIEVE SIZE	PERCENT PASSING BY WEIGHT
2" (50 mm)	100
1-1/2" (37.5 mm)	97-100
3/4" (19 mm)	60-95
No. 10 (2.00 mm)	25-45
No. 60 (250 µm)	10-30
No. 200 (75 µm)	7-20

**B. Fabrication**

General Provisions 101 through 150.

**C. Acceptance**

Test as follows:

Test	Method
Gradation	AASHTO T 27
Limerock bearing ratio	FL DOT Method FM5-515
Petrographic analysis	ASTM C 295
Total carbonates (insoluble residue)	ASTM D 3042

**D. Materials Warranty**

General Provisions 101 through 150.

### 815.2.03 Crushed Concrete Base

#### A. Requirements

1. Sources

Obtain sources of crushed concrete materials approved by the Office of Materials and Research. The criteria for approval will be as outlined in Standard Operating Procedure No. 1, "Monitoring the Quality of Coarse and Fine Aggregates" except that the raw material will be recyclable concrete as specified herein rather than a geological deposit of aggregate.

2. Type

Use crushed concrete derived exclusively from Portland cement concrete pavement or structural concrete as a base, subbase, or shoulder course.

Ensure that the material does not contain delivery unit washout material.

3. Gradation

Ensure that the finished product meets the quality and gradation requirements of [Subsection 815.2.01](#) for Group II aggregates, except that the aggregate will be recycled concrete.

Ensure that the finished product is free of foreign materials such as asphaltic concrete, steel reinforcement, clay balls, soils, epoxy expansion material, and miscellaneous paving materials.

#### B. Fabrication

General Provisions 101 through 150.

#### C. Acceptance

Test as follows:

Test	Method
Gradation	AASHTO T 27
Sand Equivalent	<a href="#">GDT 63</a>

#### D. Materials Warranty

General Provisions 101 through 150.